

ABSTRACT

A fuel level sensor for sensing and monitoring the level of remaining fluid in a container such as a fuel tank for a motorized vehicle is disclosed. The fuel level sensor incorporates an improved float and pivot arm member attached to a hub that rotates about a pivot base. The conventional resistor card technology, commonly found in automotive applications for translating the position of the float into an electrical signal, is replaced by a more reliable non-contact magnetic flux sensing circuit. The fuel level sensor incorporates a magnetic sensor and magnetic circuit in a commonly known and practiced rotational position sensor configuration for determining the angular position of a hub relative to its pivot base, where the hub is attached to a conventional float-arm member and the base remains stationary relative to the fuel container. The preferred embodiment includes a magnetic flux sensor positioned between two movable magnets. The magnetic flux sensing element is a Hall effect integrated circuit, magnetoresistor, magnetodiode, magnetotransistor, or similar magnetic flux sensing element with associated electronic circuitry having adjustable or programmable features including ratiometry, gain, offset voltage, temperature coefficient, and output signal range limiting. Critical electronic components are hermetically sealed making the fuel level sensor fully submersible in fuel for long term fuel exposure.

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